DEALER EDITION

Electricity on the Farm

A Monthly Magazine for the Progressive Rural Family

November
1929

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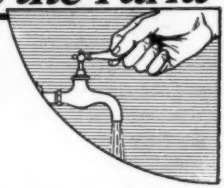

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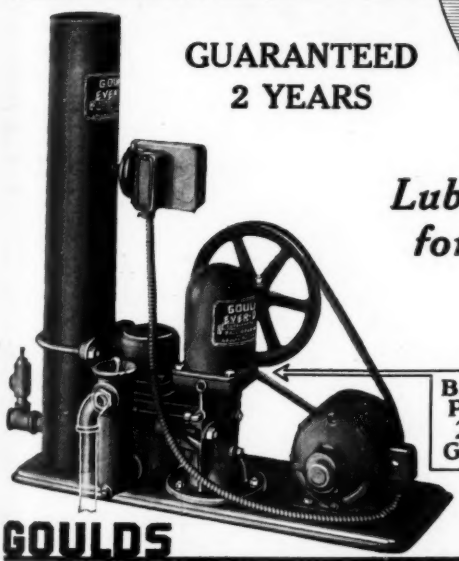

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Electricity on the Farm

Vol. 2 NOVEMBER 1929 No. 11

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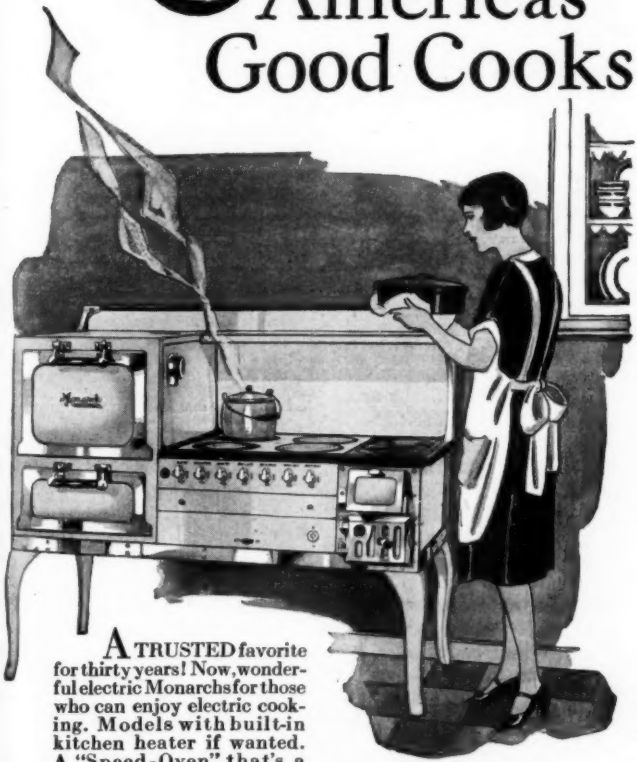
The CHOICE *of* America's Good Cooks



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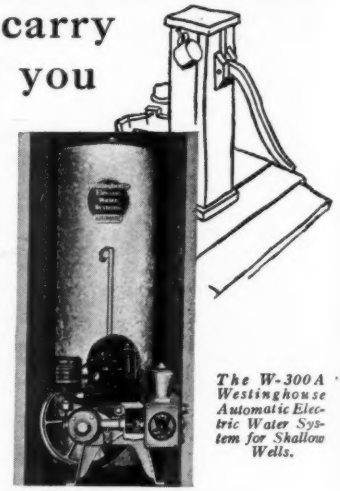

The W-300A Westinghouse Automatic Electric Water System for Shallow Wells.

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No matter how great or small are your demands for running water, there's a type and size of Westinghouse Water System to meet your need *satisfactorily*. Send in the coupon and let our Water System Engineers give you their free expert advice on your water service problems, and tell you how little a complete installation will cost. Mail the coupon today for full information.

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My source of water supply is Well_____Cistern_____Spring_____Lake_____

Number of people in family_____Number of rooms in house_____Stories_____

Number head of stock_____

We use about_____gallons of water daily.

We have electricity_____

The highest point to which water will be forced above pump is_____

Name_____

Address_____ State_____

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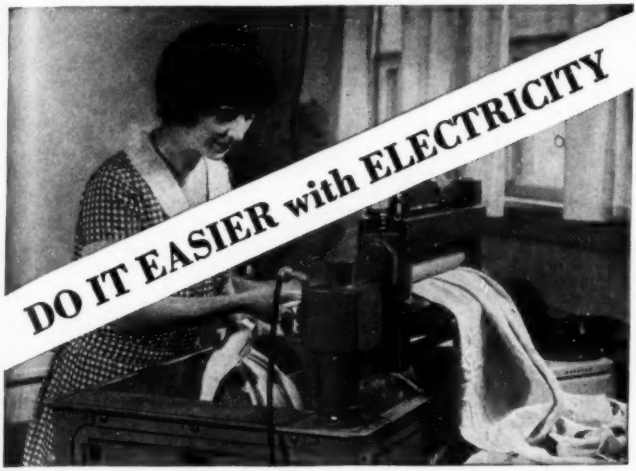

WASH-DAY doesn't mean Blue Monday when there's an electric washer to do the hard work. It does away with the bother of filling and emptying big tubs and the back-breaking strain of scrubbing clothes on a board.

Furnishing power for electric washers is one of the many ways a Westinghouse Electric Motor will help you with your work. On farms everywhere, women like to use these motors because they operate so easily and need so little attention. And they're so economical they'll do the entire washing for half the price of a bar of soap.

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And around the farm, G-E motors driving pumps, milking machines, feed grinders, and other farm equipment, do their work swiftly, tirelessly, and at a fraction of the time and cost of hand labor.

If you are located on or near an electric power line, ask the power company for complete information concerning the possible uses of electricity on the farm.

Tune in on the General Electric Special Weekly Farm Program on WGY (Schenectady), KOA (Denver), KGO (Oakland). In addition, join us in the "General Electric Hour" broadcast every Saturday at 9 P.M., Eastern Standard Time, on a nation-wide N.B.C. Network.

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GENERAL ELECTRIC

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Electricity on the Farm

Vol. 2 NOVEMBER 1929 No. 11

Cold Weather Necessities

Now that the days are getting shorter and winter is coming nearer it is natural for us to turn our thoughts to methods of making the farm home more comfortable for the family during the cold weather. A well-heated house is, of course, of prime importance, but a person cannot remain indoors all the time. Chores must be done, and many of these after dusk. Others must be taken care of before daybreak. Any equipment which can efficiently eliminate outdoor work, or reduce it, contributes directly to the comfort around the farm home in winter.

There is probably no more disagreeable task in freezing weather than carrying water from the old pump out in the yard to the house; and because water must be carried several times during the day, and frequently at short notice, this task is responsible for a big share of winter illnesses.

How fortunate is the family which has a power water system, automatically controlled, which completely does away with pumping and carrying water for the household or for watering the stock! Where electric service is available this task can be eliminated entirely, and at a very moderate expense, for electrically operated water systems are now built which can be purchased at a very reasonable price.

As to other chores around the out-buildings during the dusk of winter days, they can be lightened tremendously, and speeded up, by proper electric lighting equipment, controlled by switches conveniently located. Many of the other chores that take time and effort are, too, simplified, and expedited by use of electric machinery. As an example, the feed grinder may be cited. Where it is automatically controlled, it will work by itself, and, while it is doing its work, one has opportunity to do other chores. Thus the period required for completing outdoor chores is appreciably reduced.

When winter weather arrives, electric service shows up at its best in giving the farm family those comforts to which it is entitled.

Positive Ventilation for the Practical Dairyman

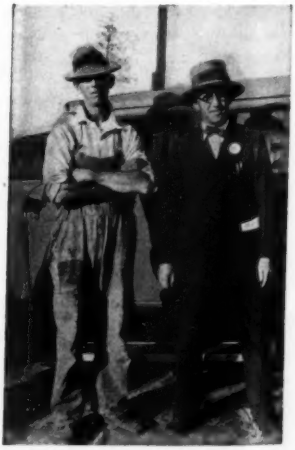
By W. J. ROGAN and CLIVE C. BELL

ON the farm of Alex Trantow, president of the Marathon County Holstein Breeders' Association, located eleven miles north of Wausau, Wis., one of the writers became interested in whether or not the barn could be properly ventilated electrically.

W. J. Rogan
County Agent,
Wausau Co., Wis.

Mr. Trantow's barn, built in 1905, is 115 ft. long and 35 ft. wide, outside measurements. It has a two-foot stone wall and being a basement barn, the wall was built into a bank on the west side. During the period of this study Mr. Trantow did not have enough cattle to occupy all stalls in the barn. Having a large flock of White Leghorn pullets, he built a chicken pen about 31 ft. by 38 ft. at the north end. About half of the floor in this pen is concrete and the other half dirt, the dirt floor being about a foot lower than the concrete. There were about four hundred pullets in the pen at the time that this study was made. Just south of the chicken pen is a section for cows. Stanchions running crosswise through the barn are arranged in two rows so that the cows face out. Twelve cows were housed in this section. Next to the cows were four small pens in which a bull and three young calves were kept. The floor in these pens is also of dirt. At the south end of the barn are located five horse stalls, but only three of these were in use. Thus there was considerably less than sufficient livestock in the barn to keep it warm in extremely cold weather. The barn had always been very cold and according to Mr. Trantow the whole barn was very wet, causing the girders and joists to mold and decay.

In the summer of 1928 an electric ventilation company cooperating with the Wisconsin Valley Electric Company installed a ventilating system in the barn. This system consisted of two 16-inch propeller-type motor driven fans set in at the east side of the barn on the hay-mow floor and con-



Alexander Trantow, left, and Clive C. Bell, Manager, Rural Electrification Dept., Wisconsin Valley Electric Company, right

nected with out-take flues extending along under the floor between the joists and down to within 16 inches of the floor of the stable. One fan was placed near the north end of the barn and the duct from it divided into two out-takes located near the north wall about 18 feet apart. The other fan was connected to a single out-take flue which opened into the litter alley between the two rows of cows.

The south end of the barn was not equipped with ventilating flues since only three horses were kept at that end. The two out-takes at the north end had a total cross section area of 280 sq. in. The 16 inch fans were rated at 1,200 cu. ft. of air per minute. The north out-takes were placed near the north wall in order to remove the cold air from that end and to draw the heat from the cow stable section over into the chicken pen located in the north end of the barn. These flues were built using only old lumber picked up on the farm. There are five intakes consisting of 4 inch tile through the walls at different parts of the barn, about 7 ft. from the floor.

In order to get accurate information on the value of this forced system of ventilation the cooperation of the College of Agriculture of the University of Wisconsin was solicited. From this study it was desired to determine whether the barn was properly ventilated and to note also the current consumption and approximate cost of operation. C. P. Wilsie represented the College of Agriculture and secured the facts which follow.

For 9 days early in March both the temperature of the air and the

Table 1. Typical Data Sheet.

Date	Temp. Station	Temp. at floor. Deg. F.	Temp. at center. Deg. F.	Temp. at ceiling. Deg. F.	Relative Humidity Station	Wet bulb. Deg. F.	Dry bulb. Deg. F.	Relative Humidity	Fan running	Outside temperature
Mar. 11 9 A.M.	1	36	38	40	A	39	39	92	24	32
	2	40	43	44	B	43	45	86	..	..
	3	42	45	45	C	45	47	86	..	..
	4	41	43.5	44	D	44	46	86	..	..
	5	44	44.0	43.5	E	43.5	45	89.5	..	..
	6	41	42	43	F	43	45	86	..	..
	7	42	44.5	44	..	..	..	..	..	..
	8	44	45	45	..	..	..	..	..	..
	9	43	44	45	..	..	..	..	..	..
	10	44	47	47	..	..	..	..	..	..
	11	41	42.5	44.5	..	..	..	..	..	..
	12	36	38	40	..	..	..	..	..	..

South Wind.

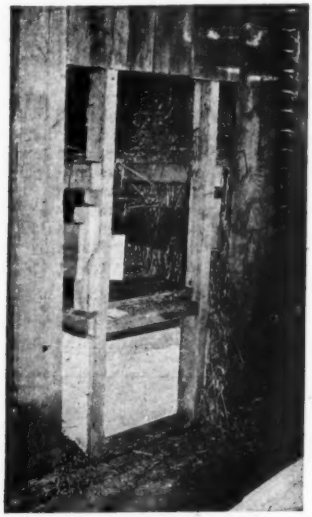
Walls dry except north wall, ceiling dry, floor dry except in chicken pen.

No intakes open.

Table 2, March 13. Effect of Fans on Temperature and Humidity in Barn.

Operation of Fans	Average Temp. in barn	Av. Rel. Hum. in barn	Outside Temperature	Outside relative humidity	Weather
9 A.M.					
Both fans 24 hrs. per day...	51°	88.8%	42°	100%	Rain
Fans stopped at 9.30 A.M.					
4.30 P.M. fans stopped.....	55.1°	93%	40°	100%	Rain

dampness of the air were carefully measured at many points throughout the barn and also out-of-doors. During the test the system was operated in several different ways to observe the effect of each condition.



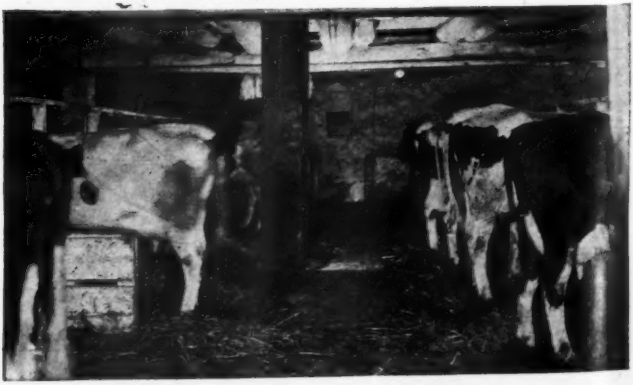
One of Out-Takes Located at North End of Barn.

Observations:

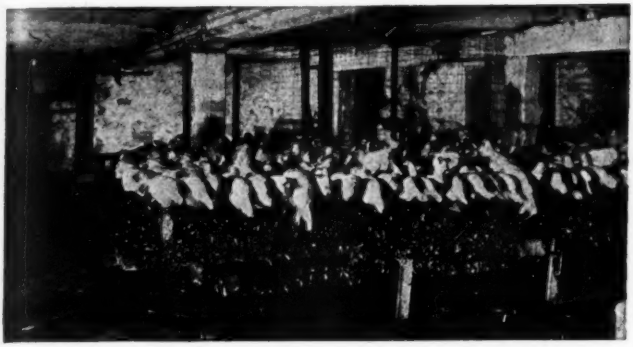
The weather during the test was warm and rainy the greater part of the time, and no observations were made during the extremely cold weather. With both fans running and with the out-take flues open near the floor, the inside temperature was about 40 degrees F. at the start of the test and this rose gradually to 52 degrees F. nine days later. The weather was cold at the start, four above zero, and warmed up as the days went on to 44 degrees F. the last day of the test. The readings were quite uniform throughout the barn, excepting at the south end which did not seem to be affected by the fans. Readings at the south end showed a lower temperature and greater dampness throughout the test.

Table 1 shows a typical data sheet, with temperature and humidity readings at the different stations in the barn.

It will be noticed in this table that the temperature in the chicken pen, stations, 5, 6, 7 and 8, are very uniform for the four stations and also that there is not more than 2 degrees variation between the tem-



Prior to Installation and Operation of Ventilating System, Section in Which Cows Were Kept Was Always Moist. View Shows Arrangement of Cow Section of Barn



Portion of Lower Floor of Trantow Barn Used as Hen House.

perature at the floor and at the ceiling.

The average relative humidity, taken at a level 4 feet from the floor, was 87% for 2½ days, when fans were running continuously and no intakes were open. When the five 4 inch intakes were open, there was no noticeable difference in temperature or humidity, but it seemed that the air smelled fresher. The barn is large and not filled to capacity so that no conclusions can be drawn about intakes from this test.

In table 2, we have the operation of the system for one day, showing the effect on the temperature and humidity of stopping the fans. The weather outside was rainy, the relative humidity being 100% all day. At 9:00 A. M., with both fans running the temperature was 51 degrees and the relative humidity 88.8% with an outside temperature of 42 degrees. The fans were stopped at 9:30 and after seven hours, readings were again taken. The temperature had risen to 55.1 degrees and the relative humidity was 93% with an outside temperature of forty degrees. The temperature is the average of 12 stations and the humidity readings average of six stations.

The system was operated for a day with the north fan stopped and the fan between the cows running. The temperature at the north end did not change much, but the relative humidity went up from 88% to 89% in the chicken pen, to 94%.

The outlet duct between the cows was then changed so as to remove the air at the ceiling and observations were made. There was very little differenec in temperature and humidity in that part of the barn, which seemed to indicate that the duct need not be built down near the floor. However, in extremely cold weather, the results might not be the same. It seemed that the air was fresher and that the circulation was better with the outlet open at the ceiling. There should be further tests on this point because there is still much disagreement among ventilation men as to whether the outtakes should open at the ceiling or near the floor.

Costs

The two fans and shutters cost $108.00 and when running continuously use a trifle over 4 KWH per day.

Conclusions and Recommendations

Mr. Trantow's barn is ventilated so that a favorable temperature was maintained throughout the past winter. The barn is also much drier since the fans have been running. Before the installing of this system, according to Mr. Trantow,

(*Continued on page* 47)

A Motor and Mixer Saves a Lot of Backaches.

Making the Most of the Multi-Purpose Motor

By E. R. MEACHAM.

WHEN a man buys a plow or a binder, he has a perfectly definite idea of how much land he has to turn or how much grain he must harvest, and considering the possibilities of getting his work done by someone else, he knows beforehand whether or not the purchase is justified. So too, before he buys a tractor, he can estimate the number of acres on which he can use it to plow, disc and seed, and possibly also cultivate and harvest, and so get an idea of the time and money it may save in the field, as well as the amount it can earn doing belt work either for himself or the neighbors. Such an estimate shows what the tractor can do on that particular farm and whether or not the possible savings will justify its purchase.

The same study should govern the purchase of a farm motor to be used for all the occasional power jobs about the farmstead or wherever the wires reach. There are, of course, a number of farm jobs which should have their own individual motors rather than depend upon one which is used for other work. These are the chores that must be done every day, such as pumping water, running the milking machine and turning the cream separator. But on every farm there are a dozen or more times throughout the year when extra power is needed. Sometimes it is just a little hand power; sometimes it is a heavy job. The 5 or 7½ H.P. motor can be economically applied to uses ranging from those requiring only a man power at the crank to those ordinarily considered belt work for a tractor.

Selection of Motor Size

In substituting motors for tractors there used to be quite a tendency toward motors of similar horse power rating, but this had several distinct disadvantages. The size of a farm power line, the capacity and cost of the substation at which it originates, and even the expense of the generating station and transmission line depend upon the "demand," that is upon the greatest amount of current that the customers may call for at any moment. Then, too, each in-

dividual customer's transformer must have capacity to supply the largest amount of current he will ever demand. Naturally, the demand of a 20 H.P. motor is four times that of a 5 H.P. motor. In all transformers there is a loss of current going on continually whether the customer is using any or not; and this unavoidable loss is a great deal bigger from a large transformer than from a small one.

That is why it costs more to provide service for a big motor than a small one and why this extra cost is reflected in the farm rate.

Motors from 5 to 10 H. P. Satisfactory

To avoid such heavy investment by the power companies and high charges to the customer, it has been found more practical to use motors of from 5 to 10 H.P. and manufacturers are already adapting the larger pieces of farm machinery to power of this size.

By keeping down the size of these general purpose motors and by mounting them on handy trucks, another advantage has been gained. That is, they are readily portable from place to place and from job to job. One man, or at most two men, can move them to the place where the work is to be done. This makes them very handy even for short, temporary jobs. As most farms are arranged, it is much more convenient to take the power to the place where it is needed than to try to group the work in one building and to operate a number of machines from a line shaft. The individual drive takes considerably less power than the line shaft and it is certainly a great deal cheaper to extend the wires and provide power outlets at convenient points than to set up a heavy shaft with its hangers, extra belts and pulleys.

With a portable general purpose motor to drive each machine separately whenever it is needed, getting proper speed for the driven machine is merely a matter of pulley sizes. The motors in most common use are rated at 1800 R. P.M., but under full load will run about 1750. To choose the right pulley for the driven machine it is necessary to know the speed at which it will run best, and to assume a certain sized pulley on the motor, as now on the market portable motors are usually equipped with sets of three pulleys

The motor helps with the winter's work.

ranging in diameter from about 3½ to 7 inches.

If you wanted to operate a hay hoist at about 300 R.P.M., you might use a 3½-inch pulley on the motor. Then to find the proper pulley for the hoist, you would multiply 1750 by 3½, giving 6125. Then divide 6125 by the hoist speed you want, 300, and you will get 20.4. There will always be a little slippage, so a 20-inch pulley will give you just about the speed you want.

Any other pulley size can be found in the same way. Just multiply the size of the motor pulley by 1750, and divide the product by the desired speed of the machine.

For Sawing Wood

Right now in November an appropriate job for such a multi-purpose motor is sawing wood. The cost for current will not ordinarily be over 5 cents a cord. Even a 5 h.p. motor has enough capacity to keep three or four men very busy, for it will cut up 3½ to 4 cords of ordinary 4-foot wood in an hour. The usual recommendation is that the teeth of a circular saw should travel about a mile a minute. This would be between 650 and 675 R.P.M. for a 30-inch saw, a speed which can be obtained with a 4½-inch pulley on the motor and a 12-inch pulley on the saw.

Grinding Poultry Feed

Another fall and winter job is cutting green feed for poultry. This will not require the full power of an ordinary portable motor. It is, therefore, a good example of how to use a motor to save labor in what would otherwise be a hand power job.

Oregon reports that it took two men six minutes to shred 60 lbs. of carrots when turning a root cutter by hand. But the motor did the same work in three minutes and used less than ⅛ K.W. hours of current. With man labor at thirty cents an hour, it cost more than ten times as much as electric power for this job.

Feed grinding is also a portable motor job that can be done at odd times throughout a large part of the year. Iowa State College estimates that it is profitable for a farmer to have his own equipment and grind his own feed when he has more than 300 bushels a year to grind.

About Grinding Equipment

The most convenient grinding equipment for the farm is the small hammer mill, not that it does so much better work than the buhr or plate mill when the latter is new and the buhrs are sharp, but because it is not injured by a reasonable amount of foreign material in the grain, and more especially because it can be arranged to operate almost entirely without attention.

This is also the great advantage of motor drive. The motor can safely be placed in the barn or granary wherever the grain is stored or is to be used. And a touch of the button will start the work at any time. Considering all of these advantages, Iowa State College finds that a farmer living five miles from a custom mill and having at least 700 bushels of grain to grind each year can do it at one-third the cost of custom grinding.

Farmers who have such outfits ordinarily use them for half an hour or so every two or three days to keep a small supply of freshly ground feed on hand. This reduces any possible loss from spoilage and also the amount of storage space required.

The capacity of the mills as well as the power required for grinding varies so much with the kind of grain and the fineness of the product that it is very hard to give any definite figures. In general, however, about a hundred pounds of oats per horse power hour can be ground in a hammer mill using an ⅛-inch screen. Shelled corn is, of course, much easier to grind, and a 5 h.p. motor will grind anywhere from 1000 lbs. up to a ton an hour.

One of the most important things about these small hammer mills is the speed at which they run. This is not the same for all

different makes, so the manufacturer's recommendation must be carefully followed in each case. All of them, however, have about the same requirement as to drive belt. To run well at the high speed necessary and to fit the small pulley of a hammer mill closely, the belt should be thin, flexible and endless. A stiff or bulky belt will not cling tight enough to the pulley, and any clumsy joint will pound the bearings and soon wear out.

When the home ground grains are supplemented with mill feeds, the motor can also save a lot of work with a shovel by driving any form of mixer. Professor C. E. Seitz described a home made machine of this type in the October, 1928, issue of *Electricity on the Farm.*

A Job for Each Month

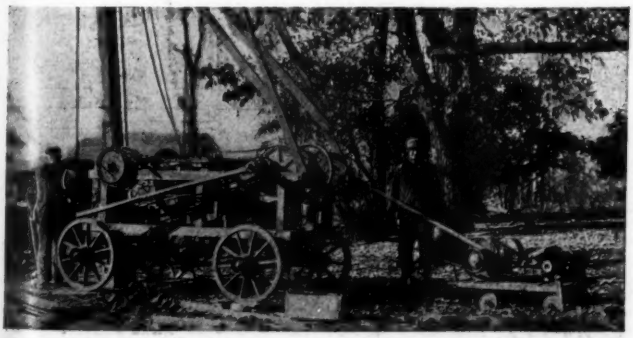
And so it goes throughout the entire year. Every month there is work at which such a multi-purpose motor can more than earn its keep, and at several of the bigger jobs it can return a profit. In January and other winter months when gasoline engines sometimes give trouble the motor is ready to husk corn and shred the fodder as well as to shell corn. By February hay prices have about reached their peak, and it is a good time to bale any surplus that can be sold. This is another job for the chore motor, for the colder the weather, the better it runs. Grinding bones for poultry feed is another profitable winter job.

Mixing Fertilizers

Then as spring comes on, money can be saved by grinding and mixing fertilizers at home. And to help with farm buildings and repairs, the portable motor will turn the concrete mixer, rip and dress lumber, and even work up a few logs from the farm wood lot.

All summer the motor driven grindstone and emery wheel sharpen plow shares, cultivator shovels, mower knives, and ensilage cutters, at a great saving of time and labor. Of course, these grinding jobs require only a small fraction of the do-all motor's capacity and a smaller motor may be more convenient for this work. But in the absence of the small motor no one should hesitate to use the general purpose motor, for it uses only enough electric energy for the work you give it and is not wasteful at little jobs.

George Stillmacher of Ripon, Wisconsin, sharpened six silo filler knives a day for twenty days, or 120 knives in all, with a 5 h.p. motor for less than 8 K.W. hours of current. Think of the pedalling



You do not drill a well every day, but the chore motor is ready when you want it.

or cranking that little bit of current saved!

At haying time, the portable motor driving a hay hoist saves a horse or a team that can be better used in the field. If the hoist is operated from the load, it also releases the driver of the hay fork team for other work. Even for threshing the handy motor has shown that it has enough power for the smaller machines, but if that job is given to a custom rig, it will still reduce the necessary crew by putting the grain in the granary. This can be done with several kinds of regular elevators, with the fan from a corn husker, with a silo filler, or perhaps most conveniently with the new hammer type feed mills.

Letting the Motor Husk Corn

Corn husking in the field follows threshing pretty closely in some parts of the country and even in this job the handy motor is a great help. For it is certainly a lot easier to touch the starting button of a motor on the elevator than to shift the team from the wagon for that work or to crib even a little corn by hand. One kilowatt hour will crib 100 bushels. As a Nebraska farmer said, "That will hardly pay for the wear and tear on a scoop shovel."

And some men find the motor on a fan a very practical way of curing their seed corn. The same is true for drying bins of grain threshed in wet seasons or harvested by the combine.

But in the dairy regions where silos abound, ensilage cutting is the big fall job for the portable motor. Strange as it seems, hundreds of farmers are finding 5 h.p. or 7½ h.p. motor the most practical, economical and convenient power for this work.

Her Dreams Realized

As a farmer's wife and living on the old homestead in Macomb County, I endured years of extremely hard work. However, nineteen years ago the electric line was extended from our town to another, passing by our farm home. I had looked and longed for the time when electricity would be extended through the rural sections. Two years ago, my dreams were realized when we were informed that electricity would be supplied to the farmers along the line.

Now we are enjoying the full benefits of electric lights both in the home and in the farm buildings. An electric water system has been installed. Other appliances are also in use in our home. When fully equipped, the farm home will be considered an efficient abode.

Mrs. Burton Cudworth,
Armada, Macomb Co., Mich.

For silo filling alone the general purpose motor is often well worth all it costs.

Cheap Fuel

BY MARTHA E. WARNER
Clintonville, Conn.

ACCORDING to the latest figures, 64 per cent of the homes and farms of the United States are now wired for electricity; and yet, if one checks up on these homes and farms, comparatively few will be found equipped with the electric range and hot-water heater.

Not but what the people want these things, but they hesitate because of the idea that the cost of operating them is prohibitive. The one thing necessary to make them change these ideas is investigation; let them investigate facts, and they will be forced to admit that electricity is a cheap fuel, so cheap they cannot afford to use any other.

Expensive or Cheap?

Now, operating an electric range can be expensive or economical. It all depends upon *how* the stove is used; and for this reason, a woman should understand the meaning of high, medium and low wattage. If she turns the 1200 watt unit on high, puts the dinner on to cook, and leaves it on high until it is done, she will find she has used many needless kilowatt hours of current; for the food will cook more economically, if the current is cut down half to medium, or half again, to low, and finally the current can be turned off entirely and the food will finish cooking on the stored heat.

Keeping Cost Down

Another important item in keeping the meter reading low, is to have all cooking utensils of light weight, flat bottomed, straight sided, and of a size to fit the cooking unit; in so doing one will utilize every bit of heat, instead of wasting it.

Before our home was wired for electricity, we were paying $12.00 per month for wood, oil for kerosene stove, and lamps and lanterns,

The electric range is clean, for it produces neither soot nor ashes.

gas for two gasoline engines, B batteries and the charging of storage battery for a nine tube radio set, and batteries for two large flashlights.

Even at this expense we had no ice, although we *did* have some privileges electricity deprives us of: such as the care of a freaky old gas engine, the lugging in of wood, to say nothing of taking up ashes, blacking stoves, cleaning lamps and dirty barn lanterns, and filling the smelly oil stove.

Taking all these things into consideration, do you wonder when people tell us we cannot afford electricity in the country, we tell them we cannot afford to do without it?

Even the range, we consider a money proposition, and are so delighted with the result, that we have just installed an automatic hot water heater; just what the running expense of that will be, as yet, we cannot tell. The manufacturers claim it will take around 30 kilowatt hours for radiation, and over that, the expense will depend upon the number of gallons of hot water used; but think what it means to country people to be able to have the luxury of hot water, any time of day or night.

The Hon. Herbert Hoover once said, "Electricity is the greatest tool that ever came into the hands of man." To that, I will add, not only the greatest tool, but the cheapest. And I know because I *know.*

A Friend in Need

By GRACE B. BAERTSCH
R. 4, Baraboo, Wis.

SAY, where is that little electric heater I bought last Fall? Father rushed into the house all out of breath. "The chicks are cold and are piling up and I think perhaps that will take a little of the chill off the air in the brooder house."

Mother handed it to him from the closet shelf and he went out with it. This was on a very cold Sunday evening in the spring. We had 500 White Leghorn chicks in the brooder house that were several weeks old. The weather had been quite warm for several days —very warm.

The chicks were of good size, so we had taken the brooder stove out several days before this. Then on this Sunday evening when we came home about 6:30, Father went to see to the chicks the first thing (as he always does) and they were piling up—20 had all ready been smothered to death.

So the time was ripe for quick action and that is exactly what we got. He attached the little heater to the socket and in ten minutes the chicks began spreading out and in thirty minutes, they were all in a ring and quite comfortable.

We left the heater on all night and did not lose another chick. Were we pleased with it? I'll say we were. Just having it on hand that one night saved us losses of many dollars.

We have no furnace in our house, so bought the little heater for use on cool days before we put up the big heater. I cannot use the oil heaters—they give me a headache.

We have a poultry farm and we have proven to our own satistion that we could not operate it profitably without electricity. We use the lights for the layers from the first of November to the first of April and for the past two seasons we have kept a light burning all night for our baby chicks. We think this has been a wonderful help in promoting rapid growth. The chicks seem to eat more and therefore are ready for the market so much earlier.

So we are convinced that not only is electricity a helpful servant to us but an absolutely necessary one.

Simple Substitute

"We never needed any of them new-fangled scales in Ireland," said O'Hara. "There's an easy way to weigh a pig without scales. You get a plank and you put across a stool. Then you get a big stone. Put the pig on one end of the plank and the stone on the other end and shift the plank until they balance. Then you guess the weight of the stone, and you have the weight of the pig."—Montreal Star.

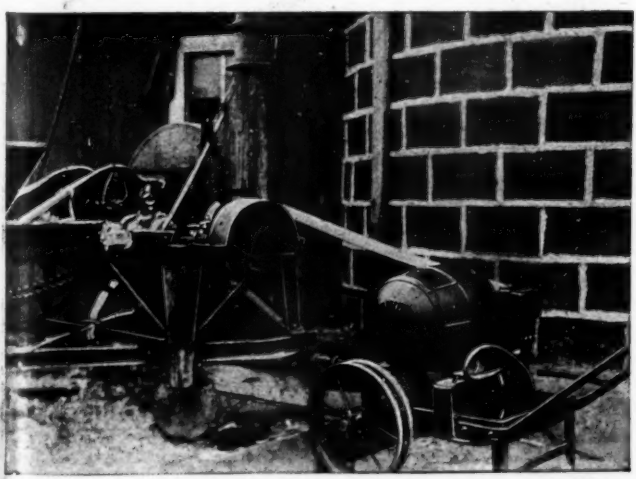
Making it a
One Man Farm

BY M. D. BUTLER
Marion, Indiana

"IF electricity will do for farming what it has done for industry, the farmer will buy it," is the opinion of Mr. Arnold Hogan of Marion, Indiana, a man of experience in the power business. To date most of the use of electric service by farm people has been the result of a desire for added conveniences and so called luxuries. However, these uses for the convenience of the family have shown the adaptibility of electric power to the production side of farming.

As an example of this idea, Arthur E. Shugart of Grant County, Indiana, wired his barn to provide light for the chores early in the morning and late at night. Mr. Shugart looked at this mainly as a matter of convenience. However, after the wires were installed he purchased a ½ h. p. motor to run his milking machine. This reduced his power costs for milking from 85c per week to 16c per week. Wherever electric power is applicable its cost is nearly always cheaper than any other power. Then he decided to operate his farm and his 20 cow dairy without hired help. He therefore has effected some changes in his business that have made this possible, resulting in a greater income from his labor.

The problem of silo filling worried Mr. Shugart considerably in changing to a "one man farm". But he solved it by getting a portable 5 h. p. motor. Now when he



Motor for driving silage equipment is compact, and occupies little space, where space is most needed.

A 5 H. P. motor drives a two-roll, husker-shredder, and does the work well

Motor driven ensilage cutter makes it possible for two men to do this farm operation, and do it economically

fills silo he gets one or two neighbors for a day or so at a time and they fill at the most convenient time and in a more convenient way. His silo is 42 ft. high, but his power cost for filling it with a 5 h. p. motor in 1928 was only $3.00. In 1927 he paid a man with a tractor $21.00 to furnish the power for the same job. Silo filling demonstrated to Mr. Shugart the adaptibility of the 5 h. p. motor to his farm and he has found two more jobs for it, namely grinding feed for his dairy and sawing wood.

Saving Time in Grinding

In regard to the former job Mr. Shugart recently stated that "once every week or ten days I would load up a bunch of feed and drive four miles to the elevator, unload it, visit about an hour with the man at the elevator while he ground the feed, load it up again, and drive home, unload it and heave a sigh of relief that 'there, that's over with again for another week.' You notice I said visit with the elevator operator. Well, I claim it was a visit because it was time wasted. Now I grind all the feed I want and enjoy the comfort of being at home instead of wasting all that time. Let me give you an idea of my cost on grinding feed. Last week we had a night demonstration at our farm and I had several farmers present read the feed grinder meter, and it took us nine minutes to grind 100 lbs. of shelled corn and oats mixed and 50 lbs. of ear corn. The cost of this operation was a shade less than one kilowatt hour in current. This same amount of feed ground at an elevator would cost me 23c."

Water System a Real Economy

Mr. Shugart believes his greatest economy from the use of electric power has resulted from his automatic water system. This insures an ample supply of water for his cows at all times, without hand pumping, a windmill or engine cranking. The engine is not always dependable in cold weather. and certainly is not convenient or sure as "pressing a button." The house and kitchen are served by the automatic water system too. In addition Mrs. Shugart uses an electric range, refrigerator, cleaner, washing machine, ironer and radio. In common with many other farmers, Mr. Shugart has also found that lights in his hen house make money and a flood light permits him to do outside work after dark. Recently he took his 5 h. p. motor, had the service company install a separate meter for experimental work and buzzed some wood. It required one k.w.h. to the cord. This was done after dark with the aid of his flood light.

Small Motors for Several Jobs

Mr. Loren McGibbon also of Grant County uses a portable ½ h. p. motor for several different jobs. The motor he uses is substantially mounted on a tripod and can be belted to any tool ordinarily run by hand power, windmill or small engine. Mr. McGibbon uses his motor for pumping water, running a washing machine, grindstone, emery wheel, fanning mill, small saw and shearing sheep. The motor takes the place of a second man but has the advantage of being more dependable and much cheaper according to Mr. McGibbon. The use of such a motor on many farms would often avoid the necessity of purchasing more expensive equipment, that is equipped with individual motors.

The cleanliness incident to operating electrical equipment is a real advantage on any farm, especially a dairy. Freedom from dirt and grease, dependable power always at a rated capacity, convenience, and safety from fire and personal danger are also real assets.

Rastus had been arrested for speeding. It was his fifth offense and as he was presented to the Judge, he muttered sometning under his breath that sounded suspiciously like an oath.

"Repeat that," thundered the Judge.

"Ah didn't say nothin', Jedge."

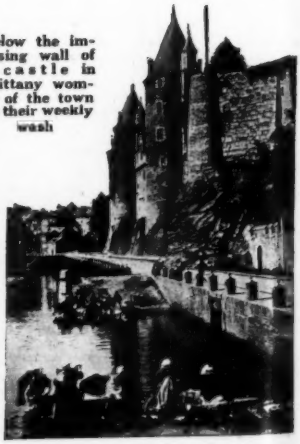
"You did say something and I want you to repeat it."

"Well, all Ah says, Jedge, was 'God am de Jedge, God am de Jedge.'"

WASH DAY . . . *on the*

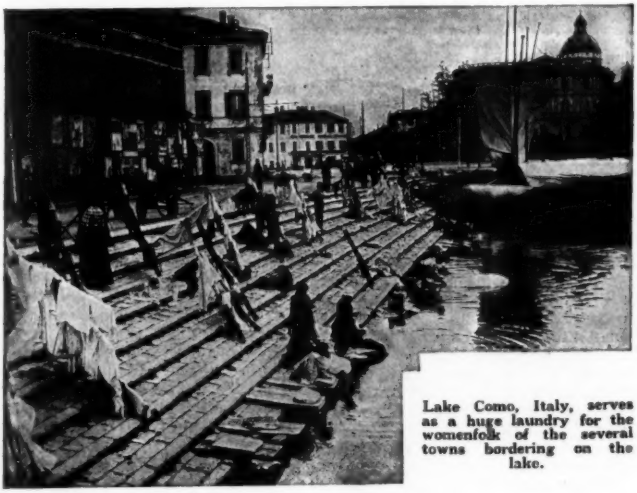
At Rotorua, New Zealand, Maori women have hot water coming from the ground to wash their clothes in. Rotorua has many hot springs and geysers.

Doing the laundry along the shore of the Jumna River at Agra, India



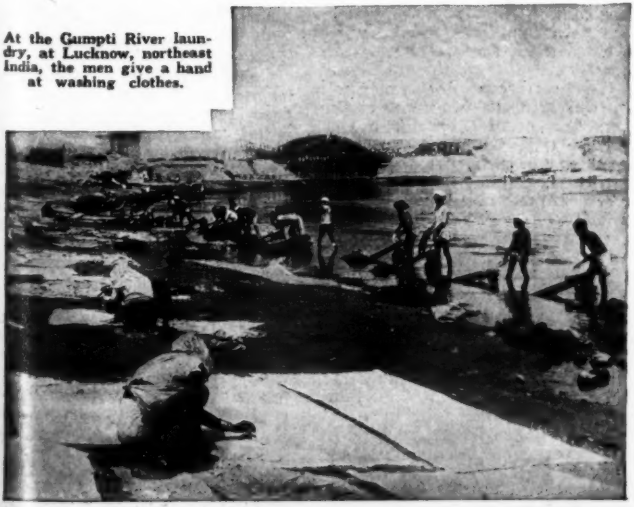
Below the imposing wall of a castle in Brittany women of the town do their weekly wash

Other Side of the World



Lake Como, Italy, serves as a huge laundry for the womenfolk of the several towns bordering on the lake.

At the Gumpti River laundry, at Lucknow, northeast India, the men give a hand at washing clothes.



Questions and Answers

Conducted by H. J. GALLAGHER

Note—Readers are invited to send in questions which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Question: Why do power companies recommend the use of small electric motors for the same jobs that implement dealers recommend much larger gas engines or tractors?—F. L. W., Michigan.

Answer: Both the power companies and the implement dealers are correct in their respective recommendations.

An electric motor will do the same amount of work on a number of farm jobs in a more practical and economic manner than a gas engine of larger power rating, but will take a longer period of time to do the work. The element of time is very important with gas engine operation, but of much less importance with electric operation.

Electricity is a very flexible type of power that can easily be controlled to operate on an automatic or semi-automatic basis that permits work being done without the attention of an operator.

The gas engine does not work on this principle but requires the attention of an operator, which means that the work must be done faster by a correspondingly larger power unit.

The correct installation of electrically operated equipment largely determines the efficiency of the equipment.

Question: Will a 5 H.P. electric motor develop more power than a 5 H.P. gas engine?—J. C. P., Indiana.

Answer: Yes! The power rating of both units are the same, as a horse power is a definite amount of work done in a definite amount of time, whether by animal power, steam power, gas engine, or electric power. However, the operating characteristics of these various power units are entirely different.

The 5 H. P. electric motor and the 5 H.P. gas engine are designed to develop 5 H.P. as a continuous load. The gas engine will usually stand an overload of but 15 to 20%, the electric motor will operate continuously at this overload without harm or diminishing speed. As compared with the 15 to 20% overload of a gas engine, the electric motor will develop a 200 to 300% overload for peak conditions.

The electric motor is like a high strung horse that is willing to overwork itself under improper control. The control of the horse is an intelligent driver, the proper control of the electric motor is the "thermal overload control" in the starting that limits the length of time the electric motor can safely operate on large overloads.

Another Hard Task Is Eliminated

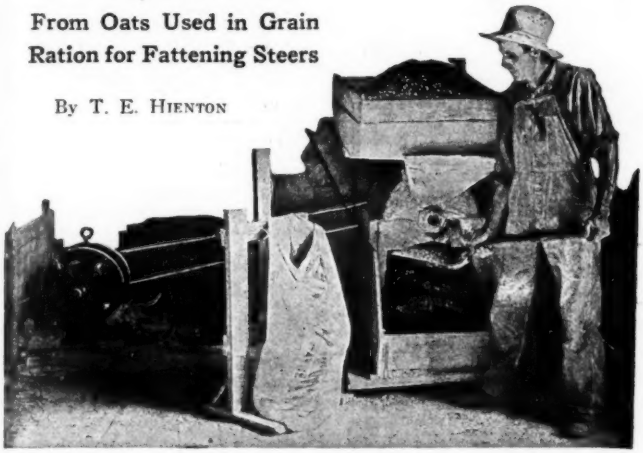
Constant increase in the use of labor-saving devices has had its effect on the handling and harvesting of corn. Binders are now part of the regular equipment on most corn belt farms. Mechanical pickers have given satisfaction and most farmers believe that within a few years, practically all of our corn will be picked by machine.

An attachment which has eliminated much hard work on farms where large quantities of fodder is cut, is the bundle elevator for corn binders. This attachment is not expensive and is a practical purchase which may be made with a new binder, or to improve the old one. Any farmer can appreciate the advantage of eliminating the back-breaking task of loading corn fodder by hand, and the speed with which an elevator will do the work means time and money saved during silo-filling.

Grinding Out Profit

From Oats Used in Grain Ration for Fattening Steers

By T. E. HIENTON



Maurice E. Reifel, Cambria, Indiana, and his 5 H. P. motor and grinder with which he ground over 5,000 bushels of oats during seven months of 1928-1929

FOUR dollars and ninety-eight cents more profit per steer has been returned by those fed ground oats than by those fed whole oats. This result is the average of three years investigational work conducted by the Agricultural Experiment Station at Purdue University in which oats comprised one-third the grain ration fed to fattening steers.

The market for oats has been steadily diminishing during the past two decades with the advent of the automobile, truck, and tractor. Throughout the corn belt, oats have occupied an important place in the crop rotation system, usually following the corn crop, and consequently farmers have continued to grow them regardless of the condition of the market. Because of this situation, farmers and experiment station men have been led to investigate the possibility of using oats in the grain ration for fattening steers as well as other live-stock.

Professor F. G. King, of the Animal Husbandry Department of Purdue University, one of the leading investigators concerned with beef cattle feeding problems in the United States, undertook a series of oat-feeding investigations with beef cattle. These investigations were initiated in the fall of 1926 to determine whether oats might replace a portion of the shelled corn ordinarily used in the grain ration. At the same time, corresponding experiments were undertaken to determine the difference in feeding value between whole and ground oats. In the fall of 1928, the additional factor of fineness of grinding of the oats was introduced in the experiments.

In three feeding trials in which similar lots of heavy steers were fed rations to determine the feasibility of replacing a portion of the corn with oats, the results showed that where ground oats replaced one-third of the shelled corn in the grain ration, there was a return of $4.76 per steer greater for those receiving the oats than for those

Summary Purdue Agricultural Experiment Station Steer Feeding Experiment—Nov. 21, 1928 to Apr. 10, 1929—140 days

	Lot 1	Lot 2	Lot 3
RATION	Medium ground oats, cottonseed meal	Shelled corn ⅔, fine ground oats ⅓	Shelled corn ⅔, medium ground oats ⅓, cottonseed meal
Initial value	$11.06	$11.06	$11.06
Average initial weight	1,076.7	1,078.7	1,079.0
Average final weight	1,390.3	1,359.7	1,443.0
Average total gain	313.6	281.0	364.0
Average daily gain	2.24	2.01	2.60
Cost of feed	$ 560.17	$ 538.68	$ 589.70
Cost of cattle	1,190.83	1,193.04	1,193.37
Total cost	1,751.00	1,731.72	1,783.07
Cost per 100 lbs. gain	17.86	19.17	16.20
Necessary selling price	12.59	12.74	12.36
Estimated selling price	12.15	12.50	13.00
Profit per steer not including pork	—6.12	—3.26	9.24
Profit per steer including pork	—6.16	.54	12.80

Feed prices:
Average corn price, 77.3 per bushel.
Average oat price, 41.5 per bushel.
Corn silage, $6.00 ton.
Cottonseed meal, $53.00 ton.
Clover hay, $25.00 per ton.
Salt, .01 lb.

	Lot 4	Lot 5	Lot 6	Lot 7
RATION	Shelled corn, cottonseed meal	Shelled corn ⅔, coarse ground oats ⅓	Shelled corn ⅔, whole oats ⅓	Shelled corn ⅔, med. gr. oats ⅓
Initial value	$11.06	$11.06	$11.06	$11.06
Average initial weight	1,080.0	1,082.0	1,080.3	1,081.0
Average final weight	1,429.7	1,394.0	1,382.7	1,418.7
Average total gain	349.7	312.0	302.4	337.7
Average daily gain	2.50	2.23	2.16	2.41
Cost of feed	$ 591.24	$ 504.42	$ 494.37	$ 527.55
Cost of cattle	1,194.48	1,196.69	1,194.48	1,195.59
Total cost	1,785.72	1,701.11	1,688.85	1,723.14
Cost per 100 pounds gain	16.91	16.17	16.35	15.62
Necessary selling price	12.49	12.20	12.21	12.15
Estimated selling price	12.90	12.75	12.50	12.75
Profit per steer not including pork	5.86	7.67	4.01	8.51
Profit per steer including pork	8.15	10.44	7.55	11.63

Grinding costs:
Coarse-ground oats 11c per cwt.
Medium-ground oats 17c per cwt.
Firm-ground oats 58c per cwt.

Hogs $11.00 per cwt.

fed corn and cottonseed meal alone.

In all three of the feeding trials in which whole or ground oats comprised one-third of the grain ration, the results have shown that returns are greater for the ground than for the whole oats. The average increased return for three feeding trials is $4.98 per steer including the value of the pork produced. This difference has varied from $2.42 to $8.18 per steer but indicates that oats should be ground when fed to steers as a part of the grain fattening ration, even when the steers are followed by hogs.

In the first two of the three trials mentioned, the oats were ground at a custom mill at a charge of 13 cents per hundred pounds. These oats were ground on a hammer grinder through a screen which was fine enough to give a medium ground product.

The tests conducted the third year were amplified so as to include oats of varied degress of fineness, as well as varying proportions of oats in the grain fattening ration. Oats were ground through a 1/16, ⅛, and ¼-inch screen and fed to lots of steers in which oats comprised one-third of the grain ration. Medium ground oats or those ground through a ⅛-inch screen were fed to another group of steers in the ratios of ⅓, and all of the grain ration.

The results of the feeding trials follow listed according to the grain ration received. Corn silage, clover hay, and salt were fed each lot in addition to the grain indictated.

The grinding costs used in computing feed cost were obtained from the grinder and motor used. The grinder, a hammer type, is suitable for a small elevator, requiring a 20-hp. motor to operate.

And He Knew

The judge admonished the prisoner thus: "I cannot conceive of a meaner, more cowardly act than yours. You left your wife. Do you realize that you are a deserter?"

Prisoner: "Well, judge, if you knew dat lady as well as I does, you sure wouldn't call me no deserter. I'se a refugee."

No Work, No Pay

A Negro was whitewashing a fence. A passerby watched him for a while and asked, "Sam, why don't you get a brush with more bristles in it?"

"Wha' for?" replied the aged worker.

"Why, if you had a good brush you could do twice as much work."

"Yessah, but Ah ain't got twict as much wu'k to do!"—Everybody's.

Bookkeeper: "What is the boss' college son so swelled up about?"

Stenographer: "A life insurance doctor just examined him and found him O.K."

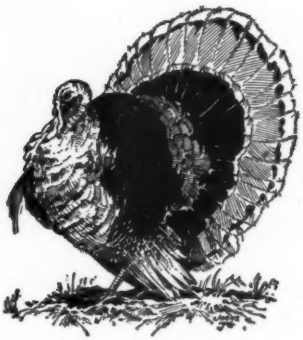
Bookkeeper: "What of it?"

Stenographer: "It's the only examination he ever passed!"

Indiana cattle feeders inspecting experimental steers at the end of feeding period, April 12, 1929

ELECTRICAL HOUSEKEEPING

Conducted by GAIL MEREDITH



Gratitude

THERE are few human characteristics more endearing than gratitude. It warms and cheers the innermost cockles of the heart; it glows with a gentle radiance that lights up the face and lends a sparkle to the eye. Like the quality of mercy "it is twice blest; it blesseth him who gives and him who takes."

The Germans have a proverb to the effect that "hudank ist der welt Lohn"—in gratitude is the pay of the world. Whatever we ordinarily think of a philosophy that offers us so base a coin, this is the month, followed hard by another equally flooded with a spirit of mellow, loving kindness, when we feel that gratitude is abroad.

Fortunately we can all form the habit of being grateful, just as we can form the habit of being courteous or as we can develop some rare talent through years of practice to perfection.

You remember the White Queen tells Alice that she often makes it a point to believe six impossible things before breakfast.

We can all be grateful, too,—if we make a point of it.

Some one has said that gratitude is a precious perfume "distilled of the oil of gladness." Sometimes it is likened to a lovely flower blossoming into gracious loveliness.

This month a whole nation stops its work to offer its gratitude to God for peace, for plenty, for prosperity.

When that first Thanksgiving Day was set apart 307 years ago, there was doubtless keen, living gratitude in the minds of those valiant settlers for that bountiful harvest, and for the sparing of life itself.

Let us not let what Stevenson calls "the featherbed" of our prosperous, modern civilization smother in us a lively gratitude for equal, constant blessings.

* * *

Hot Waffles and Syrup

LONG ago some pert observer of mankind wrote glibly:

"Man is a two-legged animal without feathers."

In the bright lexicon of the modern housewife the same is written.

"Man is a two-legged animal that likes waffles."

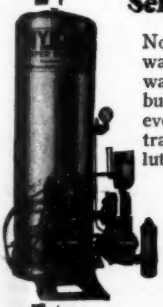
Once when I was visiting his folks, I undertook to make waffles for a tableful that stretched from one side of the room to the other on a heavy cast iron waffle iron over a wood stove. The waffles were delicious,—those old irons were perfectly efficient,—and on this night they disappeared with a rapidity that left me gasping and frantically beating up more batter, but when that last crumb had been popped into some sated little mouth, I myself was cooked clear

not just a quaint old Trade-Mark

but a Guarantee *of Reliable Service*

KNOWN since 1870, the name MYERS has been continuously associated with products of outstanding quality and value. When the old trade-mark was still fresh and novel, MYERS had the reputation of producing "The Best Pumps Built."

MYERS
Self-Oiling Water Systems



Nothing is so disappointing and costly as an unreliable water system. When you open the faucet you want the water *to flow.* MYERS builds no "bargain specials," but *a complete line* of dependable water systems to meet every need and condition of farm service. The old trade-mark is still an unquestioned guarantee of absolute reliability.

Consult the MYERS Dealer

as to the best outfit for your special needs, whether the power you think of using be electric, gasoline engine, wind mill or hand. MYERS builds them all. Name of dealer and interesting booklet on request.

THE F. E. MYERS & BRO. COMPANY
360 ORANGE STREET ASHLAND, OHIO

Makers for over 50 years of Myers Pumps for Every Purpose, Hay Tools and Door Hangers

through, and too hot and flustered to be of any value as a visiting lady.

The electric waffle iron has changed the process from an ordeal by fire to a pleasant parlor trick. On the dining room table, on a card table by the fireplace, and anywhere the group gathers, and an attachment cord reaches, that is the place for waffles.

The men of the tribe think there is never any closed season for them, but I am inclined to like them just a shade better when there is frost in the air. They come a little earlier than oysters and stay a little later, that's all.

Of course, even with one of the excellent modern irons a certain amount of care and skill are required to make good waffles.

But a woman who can follow directions will turn out crusty, golden-brown waffles that make a hungry family clamor for more.

First there are the directions for the waffles themselves, of course. I have a recipe I swear by.

2 cups four.
4 teaspoons baking powder.
½ teaspoon salt.
1¾ cups milk.
2 eggs.
6 tablespoons of melted shortening.

And since it has been impressed on me since I first made waffles that the crispness of the waffle depends a lot on the amount of shortening I use, I just never cut down on the amount of shortening at all.

The making is simple enough. I mix and sift the dry ingredients, add the milk to the egg yolks and put them in, then at the last I add the melted shortening and fold in the stiffly beaten egg whites.

The world is full of good waffle recipes. The company that makes your favorite flour, the one from whom you buy baking powder, the cooking school you attend, all of these will give you recipes you can rely on.

Modern waffles are produced with variations. There are chocolate nut waffles and cocoanut waffles for desserts. There are sausage waffles and corn bread waffles for the hearty supper,—and waffle shortcake for a special dessert. If you would like to try some of these new recipes, I will be glad to send them to you.

Then there is a certain trick to handling the iron itself. But the directions on the iron take care of that if you just won't throw them away before you read them. Some irons need to be preheated one length of time; some another. Some irons have a little thermostat that lets the iron get just so hot and signals you when it is ready for the waffle. You have to become thoroughly acquainted with your own iron to get the best results.

Then you have to put enough batter in to fill up the iron if you want it to cook evenly.

* * *

They'll Be Done in a Minute.

As cold weather comes on, pork begins to appear oftener and oftener in our plans for meals. The United States Department of Agriculture has just put out an interesting new leaflet on *Pork in Preferred Ways.* Its number is 45 and it can be purchased from the Superintendent of Documents, Washington, D. C., for 5 cents.

The leaflet, which is written by Lucy M. Alexander and Fanny Walker Yeatman, goes into the most efficient methods of actually cooking the pork and interesting different ways of fixing or serving it. Stuffed chops and breaded pork fillets sound particularly appetizing.

OAKES ELECTRIC BROODERS

Raise Healthier Chicks This Sure, Easy Way

Here's the latest, most economical brooder for raising flocks from 100 to 650 strong, healthy chicks. Proper temperature is automatically maintained by fool-proof thermostat and heat evenly distributed under entire canopy. There are no lamps or stoves under the canopy to use up space, crowd chicks or cause a fire. Brooder is quickly installed by plugging cord into light socket and adjusting thermostat switch for desired temperature.

Automatic, Economical, Fumeless, Safe and Sure

Made in the following four sizes:

Cat. No.	Size	Chick Capac.	Wt.	Each
G-90	22-in.	100	15 lbs.	$10.50
G-91	32-in.	250	35 lbs.	16.00
G-92	42-in.	425	70 lbs.	20.00
G-920	52-in.	650	100 lbs.	24.00

Canopy and legs are built of heavy, durable galvanized steel. Heat loss is practically eliminated by using Insulite and Celotex insulation in the top.

ELECTRIC HEN
(Incubator)

Produces the largest possible percentage of strong, fluffy chicks. Furnished to operate on any current. Attaches to light socket. Made in 60, 100 and 165 egg capacities.

ELECTRIC HEATERS

This is the OAKES Famous Valve-Float Fountain with electric heater to prevent water from freezing. Float valve keeps water at proper level. It cannot overflow. Sturdily built in 3 sizes, 5, 8, 12 gal.

You can get Oakes Electric Supplies from your Electric Appliance Dealer, Public Utility Co., or Poultry Supply Dealer.

WRITE FOR BIG, NEW CATALOG!

The OAKES MANUFACTURING CO.

77 Dearborn Street, Tipton, Indiana

Electric Hotbed Meeting With Success

By J. C. Scott

AFTER using the old-fashioned hotbeds for many years for starting flowers to beautify his estate near Tacoma, Washington, Mr. Frank S. Baker is now using electric hotbeds for this purpose, with most gratifying results.

The electric hotbed, according to Mr. Owens, gardener on the estate, is much easier to prepare, and results absolutely certain, in comparison with the manure heated hotbeds.

His First Trial

Mr. Baker first became interested in the electric hotbed upon seeing one on display in the electric booth at the Puyallup Fair. His first trial, by putting electric coils in a 6′ x 12′ frame to heat it, was so successful that he is now rebuilding all his hotbeds, making them of concrete and equipping each with coils for electric heat.

Most of the gardeners in the vicinity of Mr. Baker's estate have watched the electric hotbed with much interest, and according to their statements next year will witness the installation of many more hotbeds of this type.

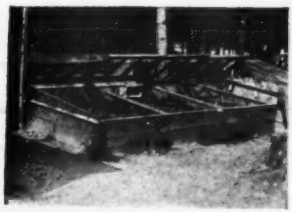
Mr. J. G. Backs, Sumner, Washington, is using a 6′ x 12′ electric hotbed, in which he raises tomato plants for sale. It is similar to the regular manure beds except he has electric coils under the flats to furnish heat.

The frame is in three sections with two coils under each section. Each coil is controlled by a switch. Mr. Backs does not use the automatic control, as he can regulate the heat very well by switches.

Most Successful

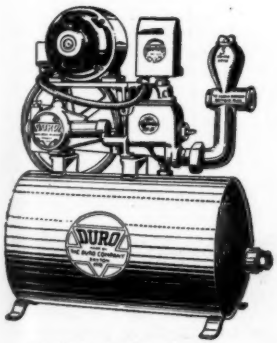
The electric hotbed is most successful, according to Mr. Backs, as it furnishes plenty of heat, is easily controlled, requires less labor, and is inexpensive to operate.

The Washington Committee on the Relation of Electricity to Agriculture, with headquarters at the State College, Pullman, Washington, has issued a bulletin describing the construction and operation of electric hotbeds.



Left: Electric hotbed of Frank S. Baker estate at Gravelly Lake, near Tacoma, Washington, used for raising flower plants from seed; upper right: interior view of hotbeds showing switches and automatic control; lower right: electric hotbed used by J. G. Backs, Sumner, Washington, for raising tomato plants and other garden stuff.

Running Water on Thanksgiving Day!



Complete, automatic, electric, Duromatic Water System, 250 gallons per hour.

Thanksgiving Day on Sunnybrook Farm and a servant has come to help Mother with the big dinner, and to brighten her eyes and lighten her cares. . . . A faithful servant that will benefit every member of the family, every day in year—the Duro Water System.

Duro can make this one of the happiest Thanksgiving Days you have ever known. Decide now to give your loved ones this greatest of all farm conveniences.

The Duro saves as it serves. It is a lifetime investment giving daily benefits. Only in Duro can you find Convertibility. You can install a low cost Duromatic Water System now, and later when your requirements increase, it is necessary only to install the next size motor on the pump for greater capacity.

Send the coupon for illustrated catalog

THE DURO COMPANY
537 E. Monument Ave., Dayton, Ohio

Cut off and Mail

DURO *Automatic* WATER SYSTEMS

THE DURO COMPANY, 537 E. Monument Ave., Dayton, Ohio

Please send me full information on Duro Water Systems, and free advisory service on my requirements.

Name..... ..... Address.....

Now Equipped with gas engine for homes without electricity

a Washing and Ironing Machine Combined

At a price formerly asked for a washing machine alone

WOMEN on the farms—you can now be rid of the drudgery of both washing and ironing, and pay no more than you have been asked for a good washing machine.

The Hurley Machine Company has just perfected this complete laundry unit—the first and only machine of its kind. It combines the Thor Agitator—world's most thorough and efficient speed-type washer—with the New Thor Rotary Iron, that does your ironing in one-fifth the time required by hand.

The Thor name on this new laundry unit is your assurance of lasting satisfaction. Write us for illustrated booklets describing this and other Thor home laundry equipment.

THE HURLEY MACHINE CO.
22nd Street and 54th Avenue
Dept. E-11 Chicago, Ill.

New Milking System Used on Federal Dairy Farm

A NEW system of milking cows which promises to reduce the cost and labor of milk production, aid the keeping of records, and produce a cleaner product, is being used at the United States Department of Agriculture dairy experiment farm at Beltsville, Md.

The new method was originated by R. R. Graves who is in charge of dairy cattle feeding, breeding, and management investigations in the Bureau of Dairy Industry.

Briefly, the system consists of a mechanical milking unit of standard make; but instead of the usual pail for the milk, it is drawn into a clear glass tank hanging on a scale between two stalls and somewhat above the cows. Its transparency makes the rate of milking visible to the operator at all times, both by the amount of milk in the receptacle and by the weight registered by the scale. When the milk ceases to flow into the receptable, the operator records the weight of the milking and opens a valve which permits the milk to be drawn from the bottom of the container through a sanitary pipe line to a large vacuum tank in the dairy house nearby.

Thus the milk reaches the dairy house without having come in contact with the air, human hands, or any other contaminating agency. No milk is in sight except that in the vacuum-tight glass receptacle.

Sterilization of the mechanical equipment is accomplished quickly and easily by running cold water from the dairy house back through the pipe line, the glass receptacle, and out of the teat cups into the gutter. This is followed by hot water and then steam.

This system saves labor in a number of ways. The milk is drawn to the dairy house automatically and there is no handling of buckets or other milking utensils. Nor is it necessary to strip the cows to finish milking. The udder

is massaged while the teat cups are still in place, and the transparency of the glass receptacle permits the operator to see when the cow is giving no more milk. One operator can handle three or four milking units, milking three or four cows at the same time.

At the department farm one man does all the milking with three units and has milked 29 cows three times a day and 25 cows twice a day in a total period of 5½ hours. The milking is done in a special barn equipped with the three milking units, and stalls for six cows, the cows enter from the feeding barns on either side of the milking barn, pass into their proper stalls from the rear, stop to be milked, and when finished pass forward and out to return to the feeding barn. No time is wasted in tying or fastening the cows. They are detained by movable gates hanging in front of each stall. As soon as one cow has been milked, the teat cups are taken off, the milk is drawn from the glass receptacle in about 22 seconds, and the teat cups are placed on the cow in the adjoining stall and milking started again. From the rear of the stalls the operator raises the gates to let out the cow after milking is finished, and another steps in to take her place. It is interesting to note how readily the cows learn the procedure and return to their right barns.

The new system not only reduces the labor incident to milking but favors the production of a cleaner product, Mr. Graves says. The milk in the vacuum tank can be cooled as it enters the tank, or it can be pasteurized and then cooled in the same tank. It is possible, he says, to go a step farther and bottle the milk under vacuum, using the principles now commonly employed in canning fruits and vegetables. Milk thus handled would make the entire journey from cow to consumer without contact with the air until opened for use.

Tests of the bacterial content of the milk produced under this new system, made by the division of market milk investigations, have shown some remarkably low

Washes Clothes

in less than 1/3 the time

With General Electric Motor

and does *all* the work

ACTUAL tests have demonstrated that this new Thor Agitator Washer will do your whole family washing in less than one-third the time required with a washboard. It does *all* the work. It washes clothes cleaner. And the cost of doing a generous washing is about equal to the price of 2 postage stamps.

Women on the farms — *read that again*! Can you afford to sacrifice your health and lose these precious hours for the sake of a few cents? It's false economy—and it doesn't pay.

We'll gladly send you illustrated booklets describing this, and all, Thor home laundry equipment. Write to

THE HURLEY MACHINE CO.
22nd Street and 54th Avenue
Dept. E-11 Chicago, Ill.

Sew Two Dresses in less time than one

You can instantly attach the Hamilton Beach Home Motor to *your own* sewing machine—*the machine you already know*—and make sewing a pleasure while doing two days work in one. It makes your old machine as efficient and easily operated as the most expensive electric machines. Sold at stores.

No More Pedal Drudgery

The motor does the work, pedal gives absolute control of sewing speed. Electricity costs less than 1c per hour. Savings pay for motor in few days use. The Home Motor with attachments also mixes cake, whips cream, beats eggs, sharpens knives, polishes silverware or runs electric fan.

Free Booklet

If you have a treadle sewing machine, send for free booklet telling how the 1,000,000 Hamilton Beach sewing motors now in use save hundreds of hours work and make housework a joy. Price is very low. Mail coupon today—NOW.

HAMILTON BEACH HOME MOTOR

Hamilton Beach Mfg. Co.,
M-6058 H. B. Bldg., Racine, Wis.

Without obligation, please send booklet explaining how Home Motor saves me many hours of work every week at a saving which pays for motor in few days.

Name.....

Address.....

Town..... State.....

counts. Over a five months' period, the average bacterial content, as taken from the glass containers, was 3,460 per cubic centimeter, and from the vacuum tank 3,780 per cubic centimeter. On four days of this period the milk was pasteurized in the vacuum tank at 145 degrees for 30 minutes; the average bacterial count of the raw milk in the tank before pasteurization was 3,590 and after pasteurization and cooling it was 55 per cubic centimeter, indicating a very high efficiency for pasteurization under this system.

Silage Makes More Beef and More Profit

IN a test recently completed at the Ohio Experiment Station, an acre of corn in the form of silage produced 752 pounds of gain on yearling steers. A similar acre fed as shelled corn produced only 372 pounds of gain in the form of beef.

The silage fed steers were given no grain. On a ration of 47.4 pounds of silage daily, 2 pounds of cottonseed meal and a small amount of mixed hay, they gained an average of 2 pounds a day for 174 days. The lot fed shelled corn, cottonseed meal, stover and mixed hay gained somewhat more but the increased rate of gain was not important enough to equalize the low cost of gain on the silage fed steers.

The silage cattle made a profit of $8.58 per head, including pork gains, and the grain fed cattle, $3.46 per head.

An acre of corn fed in the form of silage returned a sum of $71.65 an acre. In the form of shelled corn, the return was $50.80 per acre.

As silage, an acre of corn furnished enough feed to last one steer 375 days. When fed as shelled corn, one crop acre carried a steer only 166 days. The field of corn used yielded 48 bushels per acre as grain and 8.8 tons per acre as silage.

Dressing percentages were 59.6 on the silage fed steers and 60.6 on

the grain fed cattle. Packers said there was little difference in the quality and condition of the two lots in the beef.

Prof. Paul Gerlaugh of the Ohio Station points out that profits from the two methods of feeding will vary from year to year according to market prices but he believes that any method of feeding which produces the results obtained by the all-silaged test is worthy of consideration.

Putting Comfort in Farm Life.

By S. E. & O. M. VIAU
Sanger, Calif.

OUR farm is located in the heart of the raisin belt about ten miles east of Fresno, California. It consists of forty-three acres of Malagas, ten acres of Thompson Seedless and five acres of Emperors. When we took possession of this place in 1924 we found the irrigation pumps were being driven by two gasoline engines. There was no electricity on the farm at that time. After a one year's trial of these engines, however, we were extremely glad, to say "goodby" to them and to the many hours of backbreaking work trying to start them, and to those almost endless trips to and from the gasoline tank with more fuel. It was a banner day for us when the house and barn gave forth brilliant light, and our new seven and one-half horse power motor, which replaced those old engines, stood ready to drive a four-inch pump, almost without care, through the long irrigation season. By simply closing a switch this unit sends sufficient water out through the irrigating pipes to cover our entire acreage in a few hours. I have the pipe outlets so arranged that one faucet waters each row of vines. It is now possible for me to spend the entire day elsewhere, if I choose, and the irrigation goes on just the same. I feel independent and am satisfied with an irrigation cost of two dol-

Now
the Prater Farm Mill Grinds Ear Corn as Satisfactorily as Small Grains

HERETOFORE it has not been practical to grind ear corn with the small electrically operated hammer mill. It has been necessary to feed ears by hand, and this is a slow and tedious operation.

The demand for an attachment which would enable the Prater Farm Mill to grind ear corn in a satisfactory manner has been so insistent that for over a year the Prater Pulverizer Company has been devoting an unusual amount of experimental effort to this problem.

Now the Prater Pulverizer Company announces the Prater Automatic Ear Corn Breaker and Feeder—an attachment which enables the Prater Farm Mill to grind ear corn automatically.

Ear corn is entirely crushed and fed into the mill at a surprising rate of speed—approximately 25 bushels per hour, grinding to dairy fineness.

The Prater Automatic Ear Corn Breaker and Feeder, as well as the Prater Farm Mill, is backed by an iron-clad guarantee of entire satisfaction or the refunding of the purchase price.

Write today for new literature describing the Prater Farm Mill and the Prater Automatic Ear Corn Breaker and Feeder.

PRATER PULVERIZER CO.
Merchandising Service Division
817 W. Washington Blvd.
Dept. "K"
Chicago, Illinois

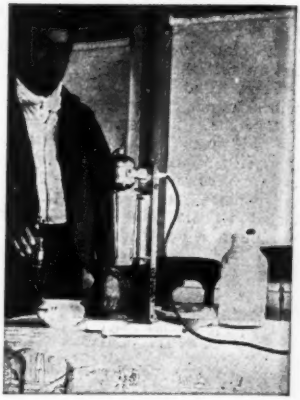
lars and fifty-eight cents per acre per season. I can now irrigate when the crop needs it and as often as I want to.

Mrs. Viau Speaks for Herself

While we live in a modest house we have the electrical equipment for a pretentious home. We have three children, two in high school and one in grammar school. In addition to my regular home duties I teach grammar school in one of the nearby districts. Without electrical service it would be necessary for me to give up my school or hire help. My many little electrical servants aid in making my work easy, and they are so convenient. By just turning a switch almost instantly the heater coils are glowing in the living room (we have no other type of heat) and the room quickly attains a temperature comparable to those heated by furnaces. There is no more wood or coal to pack, or ashes to be carried out. Soot has ceased to be a nuisance in our home. The most interesting thing about this method of heating is that under our rates and in our climate it only costs two cents per hour when the heater is on medium and six cents when on high. The heater is a five kilowatt, 220 volt, Wesix unit.

The most appetizing toast is made right at our dining room table and the most ideal coffee percolated at a cost of about ¼ cent for a medium sized pot. This is very convenient for family life and delightful when guests are present as it is not necessary for me to leave the room.

When my husband presented me with an automatic Hotpoint electric range I was sure the zenith of my hopes had been reached; no

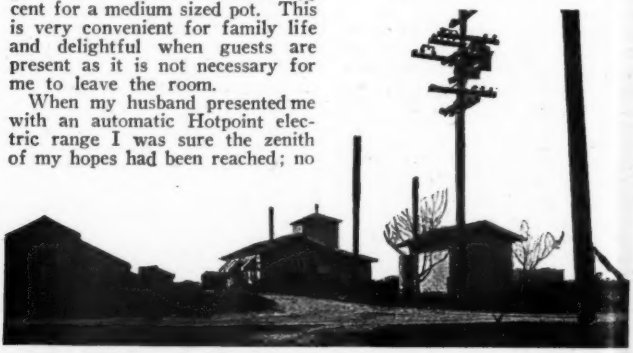


Nothing Like an Iced Milk Shake on Warm Days

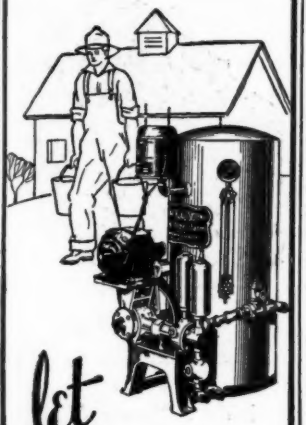
fumes, no flames, no greasy walls or ceilings, no blackened pots, no burnt match stubs, no ashes or soot to carry out, absolute comfort in cooking which has reacted to produce a happier and a healthier family I am sure. The cost to operate our range, of course, depends upon how much we use it and what kind of cooking is done. Oven cooking is much more economical of heat than the other types.

Every one knows how children,

(*Continued on page 48*)



The Viau Farm House Ten Miles East of Fresno, Cal.



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a PAUL Water System carry the Water!

PLENTY of water at a turn of the faucet... *fresh, clean, cool!* Water for kitchen, dairy, barn... for fire protection too. No more back-breaking pumping and carrying. *Increased profits* on live stock will pay for it every year.

The Paul will work for you for a few cents each day! And the first cost is *much lower than you expect.* Use the coupon now and let us recommend the system for your needs.

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Pumps and Water Systems — *Water Softeners · Heaters*

Ft. Wayne Engineering & Mfg. Co.
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Send complete information and prices on Paul Water Systems.

*Name*_____

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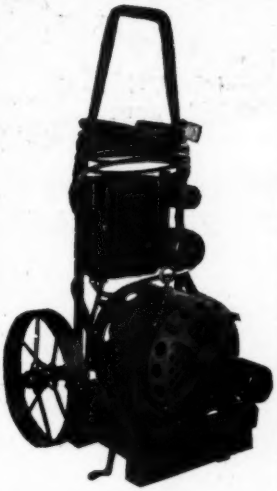

Year-Round Dependability

Winter or Summer—Century Farm Motors can always be depended upon to give continuous, reliable service. Dampness does not affect them—this is one of many reasons why "They Keep a-Running".

CENTURY ELECTRIC CO.
1806 Pine St. St. Louis, Mo.

40 U.S. and Canadian Stock Points and more than 75 Outside Thereof

Century MOTORS

WHAT ABOUT YOUR PALACE?

ONLY about 10% of the farms in the United States are as yet using *electric service* from the lines of the Light & Power Companies. No doubt this is for the most part due to lack of convenient "lines" to which to connect the remaining 90% of the farms of the country.

However, it is estimated that the average electrified farm is only utilizing this energy to the extent of 6% of its potential application in farm work. *Inadequate Wiring* is doubtless responsible for this deficiency.

Every farmer should not only be interested in the *cost of operating* his farm by electricity but also in the *cost of doing without it.* To determine this he should sum up the various operations in his work that could be performed electrically. Then he should call in his local *Contractor-Dealer* to estimate the cost of adequate wiring to care for such requirements.

You can rely on your Contract—or; his interest lies in serving **best** your actual needs . . . And you will find him firm in his opinion based upon Experience that the "Knob & Tube" System of Wiring is not only the **least expensive** but is the Safest — Most Dependable — and has Longer Life.

KNOB & TUBE WIRING — SAFE DEPENDABLE ECONOMICAL

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Macomb, Ill.
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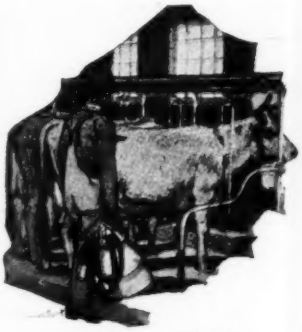
Porcelain Products, Inc.
Findlay, Ohio



Increase Milk Production 15 to 25%

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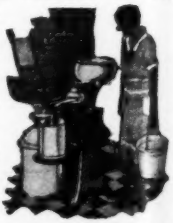
Milk 3 Times A Day with the De Laval Magnetic Milker

IT is well established that 3-times-a-day milking will increase milk production 15 to 25%. Due to the saving in time and labor made possible with the De Laval Magnetic Milker, this can be done with half the help required by twice-a-day milking by hand, and often in less time. This is a splendid method of securing extra profits.

Electrically operated De Laval Milkers are both efficient and economical.

And Get All the Butter-Fat With a De Laval Separator

Cooperate with your cows and get every bit of the butter-fat that they can produce. No separator skims as clean as a De Laval and none lasts so long. De Laval Separators can be equipped for electrical operation and make separating but the matter of throwing a switch.



The De Laval Separator Co.

New York, 165 Broadway — Chicago, 600 Jackson Blvd.
San Francisco, 61 Beale St.

Cover Title Contest Rules

Only the farmers or members of the farm family, to whom this magazine was sent, are eligible.

Only one title may be submitted.

Use the form below or write your answers on a plain sheet of paper in similar form.

Be sure to answer question (a).

Write plainly and send your suggestion to the Title Editor, ELECTRICITY ON THE FARM, 225 West 34th St., New York, before December 1.

In addition to the $25 cash prize for the best title to this month's front cover, we will pay $5 for each of five titles given honorabe mention. In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled. The winners will be announced in the January issue.

Winners of the September Cover Title Contest

First Prize

"Making Pie with Mother's Currants"

MRS. L. D. VARLEY, R. 5, Shenandoah, Iowa

The following titles have been selected as the winners of the $5 cash prizes:

"Early Education in Electric Refrigeration," Mrs. Jennie E. Powers, Lake Forest Drive, Anacortes, Wash.

"A New Recipe for Frozen Pudding," Anita T. Pickett, R. 4, Kingston, N. Y.

"Ice Box Cakes Like Mother Makes," Jane Hicks, R. D. 2, Norristown, Pa.

"Tomorrow's Homemakers Go in for Electric Refrigeration," Mrs. R. P. Nichols, Chesterland, Ohio.

"Getting the Right Idea Early," Mrs. G. R. McReynolds, R. 3, Nampa, Idaho.

My Title for November Front Cover picture is.....

.....

.....

.....

(a) Fill in the brand name for each article you now have or plan to buy.

Product	Make We Now Have	Make We Plan to Buy
Vacuum Cleaner..	.....	.....
Refrigerator.....	.....	.....
Milking Machine.	.....	.....
Brooder.....	.....	.....
Radio.....	.....	.....

Name.....

Address.....

The Kearby Dairy Farm in Mississippi Believes in Signs

Helping Build Mississippi

By W. I. SMITH

THE night traveller along the "Brick Road", seeing a large electric sign about halfway between Magnolia and McComb, Mississippi, is apt to imagine that he is approaching the city limits, and slow down to something like the usual speed limit, cocking a wary eye about for traffic cops. This gives him ample time to read the sign:

KEARBY DAIRY FARM ELECTRIFIED BY CENTRAL MISSISSIPPI POWER COMPANY. HELPING BUILD MISSISSIPPI.

J. M. Kearby, owner of this farm, came to McComb fourteen years ago, flat broke as a result of business reversals in 1914. Formerly a banker and business man back in Illinois, Mr. Kearby now recalls with mixed emotions his first humble little shack on the site of his present dairy farm. There was not even a cook-stove, he recalls, all cooking being done on an open fireplace.

Now the kitchen in his present home is equipped with an electric range, electric refrigerator, water heater and pressure tank. Electric power washes and irons the clothes, cleans the whole house and at night it assists with the radio or if Mrs. Kearby prefers to read it furnishes a soft and ample light, and best of all—

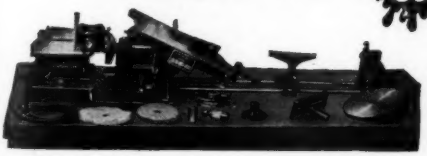
She is not too tired to read.

Not only that, but the kindly kilowatt milks his cows for him while they munch the feed ground by electricity and electric power runs the separator and washes the milk bottles.

A Contented Farmer

Not only does the Kearby farm produce "milk from contented cows," but here we find —a rare thing in late years— a contented farmer and a contented wife. The gross revenue from the 90 acres comprising the Kearby farm exceeded nine

COMPLETE **$89**



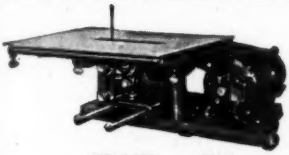
LOW PRICE
Includes all this:
4" Planer
8" Circular Saw
6"x36" Lathe
9" Disc Sander
6" Buffing Wheel
5" Emery Grinder
¼" Drill Chuck
¼-H.P. G. E. Motor, 110-Volt, A.C., 60-Cycle
Endless V-Belt, two 4" and one 2¼" V-Belt Pulleys. Cast Iron Sub-base and 10 ft. Cable with separable Plug.

WORKACE Electric WOODWORKER

Recognized everywhere as the standard outfit for home and commercial use!

The most complete all-electric woodworking shop made. It's guaranteed for one year against defective parts. Fast, accurate, powerful and easy to work with; makes everything out of wood. Nothing like it said or advertised. Send for complete description.

EASY TERMS:
$9 down
$9 per mo.



JIG SAW ATTACHMENT **$10.**

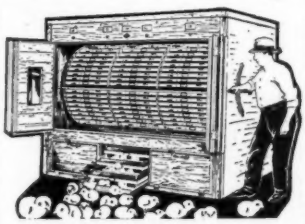
J. D. WALLACE & COMPANY,
2848 West Adams Street, Chicago;
11 West 42nd Street, New York City
288 Market Street, San Francisco.

I want to know all about the Workace Electric Woodworker.

Name .....

Address .....

Ask Your Power Company About—



the now-famous **Smith Brothers Electric Brooder**, which can be ordered direct from this list:

18 in.	75	chick size,	$9.50
24 in.	100	chick size,	10.75
32 in.	200	chick size,	16.00
42 in.	350	chick size,	20.00
56 in.	600	chick size,	24.00
72 in.	1000	chick size,	36.00

WELLINGTON J. SMITH CO.
936 Davis-Farley Bldg., Cleveland, Ohio

WHY WASTE POWER?

ROLLER BEARINGS are standard equipment in Automobiles, Pullman cars, and BEVAN Pump Jacks. For economy in power bills and long wearing qualities, insist on ROLLER BEARINGS in your pumping equipment.

BEVAN Pump Jacks, Electric Pumpers, Electric Units and Fresh Water Systems will handle wells of all depths. The power saving alone will soon pay the first cost.

Ask your dealer or power company for BEVAN ROLLER BEARING Pumping Machinery or write us for complete information.

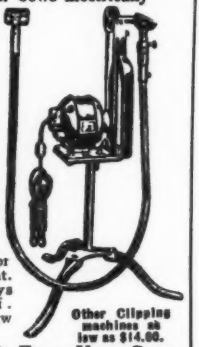
ACME MACHINE COMPANY

2901 FREMONT AVE. SO. **MINNEAPOLIS, MINN.**

Clip Your Cows Electrically

The New STEWART STOCKMAN

is a powerful, smooth-running, quiet machine. Will give years of low cost service. Supplied for any specified current, from socket or lighting plant. Quickly pays for itself. Priced as low as $45.00.



Other Clipping machines as low as $14.00.

More Profit From Your Cows

Clipped cows give more milk, richer in butter fat. Clipped cows are easiest to clean—their milk is cleaner and stays sweet longer. Tests show increased profit as high as $1.40 per month per cow.

Ask Your Dealer—Or Write for FREE Catalog

Chicago Flexible Shaft Company
5524 Roosevelt Road, Chicago
40 Years Making World's Best Clipping and Shearing Machines

thousand dollars for 1927, and for 1928 Mr. Kearby expects to exceed twelve thousand dollars. He did not state the net proceeds, but he seems mighty well satisfied. And he speaks very highly of the kilowatt.

Mr. Kearby gave a gentle "tut! tut!" when told that what the South needs is for more Yankees to come down here and show us how to succeed. He insists that the best way for an outsider to lose a lot of money is to come here with the idea that he is "going to show 'em how to farm". There is much for a farmer to learn, he says. before he is in a position to show others. He does feel, however, that an outsider is apt to see opportunity more easily than many natives, who are too close up to their problems to get the proper view point. In his own case, he points out, he could not lose money in his project when he started it, because he had none.

In the area served by the Mississippi Central Power Company, which has its headquarters in McComb, are to be found several cotton mills, countless cotton gins, a garment factory, the Illinois Central railroad shops, many large gravel-pits, creameries, condenseries, dairy-farms, orchards, truck-farms, poultry farms and hatcheries, and consolidated schools of ultra-modern type—all served by the "high line".

Near Crystal Springs, the "Tomatopolis of the World," as it proudly calls itself, is a gravel-pit operated by the Copiah Gravel Company, representing an investment of $200,000, using a 250 h.p. electric shovel. Water is provided for washing the gravel from a number of deep wells, equipped with motor-driven pumps. This project, covering 320 acres of land, with a gravel deposit averaging 100 feet in depth, is also destined to "help build Mississippi."

But the electrification of industry is an old story. Interest centers just now in the problem of farm electrification.

Reducing Cost

"One tendency," says Mr. R. E. Baird, manager of the Mississippi Central Power Company, "that retards the proper use of electricity is that farmers and their wives still feel that the less "juice" you use, the more you are economizing. This idea, by the way, is not limited to rural users. As a matter of fact, it takes mighty little "cipherin' " to show that when a human does work that a small motor can do, he or she

is working for about one cent an hour. Not even old Aunt 'Melia, the kitchen mechanic, will work for such a pittance. Besides, Aunt 'Melia has what colored folk euphemistically call a "crooked arm," when she goes home to her cabin at night. Her hire calls for three square meals a day for herself, by agreement, and three more meals a day, by mental reservation, so to speak, for Unc' Silas.

The kilowatt has no crooked arm, no shiftless husband to provide for, it never grumbles plaintively of a "misery in de back," over Monday's wash, but works tirelessly, twenty-four hours a day, if necessary, for three cents an hour, or thereabouts.

And in rapidly increasing amount the kindly kilowatt, on the farm, as well as in the factory, the shop, or the gravel-pit, is "helping build Mississippi".

Positive Ventilation

(*Continued from page* 13)

the north end of the barn was very cold and he did not think it possible to keep poultry in that end. Last winter, he says, it froze ice only twice in the barn and the air was fresh and smelled clean all the time when the fans were running. His only point of dissatisfaction was that the litter in the chicken pen became damp and had to be changed every day. However, a properly built concrete floor will provide some insulation and tend to prevent moisture from coming through from below.

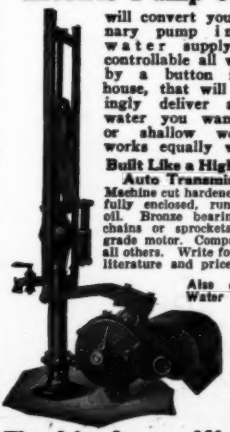
Mr. Trantow states that even operating under the adverse conditions mentioned his ventilation system is very satisfactory and has accomplished results in his barn that he did not think possible.

Prof.: "Why does lightning never strike in the same place twice?"
Stude: "It doesn't need to."

SUNLIGHT IS THE GREATEST REMEDY
and preventative of disease!
Here is the sunlight machine you have been waiting for. Low in first cost and maintenance. Backed by expert research experiments and our unconditional guarantee. An ultra-violet lamp specially designed for many uses on the farm and in the home.

"Poultri-Lite"
stimulates laying—increases hatchability — doubles broiler weight — prevents and cures rickets, etc.
May be bought singly or in battery with portable standard. Safe and simple to operate. Prepare now to give your flocks the health and vitality this lamp produces through Vitamin "D."
Write for complete information and test reports on Dr. Chesney's "Sunshine Carbons"—an exclusive feature of Poultrilite that assures positive results.
RUSSELL ELECTRIC COMPANY
340 West Huron St., Chicago, Ill.

The LAUSON
Electric Pump Jack
will convert your ordinary pump into a water supply unit, controllable all weather by a button in the house, that will unfailingly deliver all the water you want—deep or shallow well, it works equally well.
Built Like a High Grade Auto Transmission
Machine cut hardened gears, fully enclosed, running in oil. Bronze bearings. No chains or sprockets. High grade motor. Compare with all others. Write for special literature and prices.
Also complete Water Systems



The John Lauson Mfg. Co.
780 Michigan St., New Holstein, Wis.

Farm Life Comforts

(*Continued from page* 40)

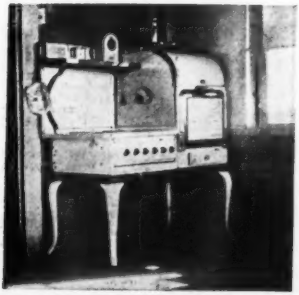
especially, dread to bathe in a chilly bathroom. We have a portable heater which warms the bathroom in a few minutes and at a very small cost. Our children love to bathe now. An automatic Wesix water heater supplies an abundance of hot water whenever needed for cooking, bath or washing. Wash day is no longer dreaded at our place.

Our electric iron has eliminated all wood or coal packing. It is no longer necessary to stand over a hot stove. The ironing is done quickly in a cool place and at a cost of only about two cents per hour of heat. The electric iron, I think, is one of the best examples of the true value of electrical appliances in the home. I do not happen to have curly hair so I have an electric curling iron which supplies the correct heat, without danger of singeing, to give the desired effect.

In California in summer, domestic refrigeration is a necessity in order to keep our perishable foods fresh and wholesome. We have a General Electric refrigerator which is free of the many objectionable features always present when we use ice. No drip pan is necessary now, the floors are not dirty and wet around the ice box and we do not have to drive all the way to town for ice. Our machine makes convenient little cubes of ice which are always available for drinks. Our refrigerator costs us about twelve cents a day in the summer time. In most cases this is less than the ice would cost, let alone the long trip to town.

Sometimes we have hot weather in California. Do people enjoy a cold drink at such times? We have an electric milk shaker that mixes drinks better than those at the corner drug store. We also have a portable electric fan which helps to keep us cool during those days when the mercury climbs ever higher. Whether reading, sewing or eating, the fan can be so adjusted that we are comfortable.

We feel that we cannot praise electricity too highly for it is the greatest time saver we know of and it is very convenient, and safe. It is the most modern agency by which a farm can be operated for both profit and pleasure.



Here's the Electric Range on the Viau Farm.

Stella: "If you had two wishes what would you ask for?"
Maris: "A husband."
Stella: "That's one."
Maris: "And I'd save the other one till I saw how the husband turned out."—Answers.

Husband: "If a man steals—no matter what—he will live to regret it."
Wife (sweetly): "You used to steal kisses from me before we were married."
Husband: "Well, you heard what I said."

No Samples Today

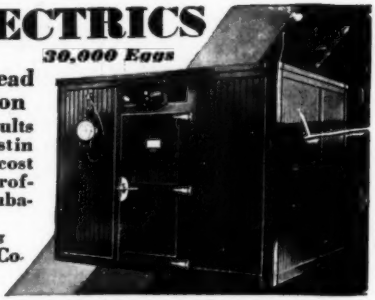
Porter: "Where's you trunks, sah?"
Salesman: "I use no trunks."
Porter: "But I thot you wuz one of these traveling salesmen."
Salesman: "I am, but I sell brains, understand? I sell brains!"
Porter: "Excuse me, boss, but youse the furst fella that's been here who ain't carryin' no samples."—Bank Draughts.

CLASSIFIED ADVERTISING

INVESTIGATE the proven records of economical operation and success of the LYON IMPROVED ELECTRIC BROODERS. Send for free authentic information and reports on electric brooding. Also ALARMS, Power-off, Temperature, Burglar, Heating & Thermostatic Supplies. Interesting circulars on modern poultry equipment upon request. Lyon Electric Co., Dept. *FF*, Box 1436, San Diego, Calif.

SMITH ELECTRICS

52,000 Eggs **30,000 Eggs**



The Farthest Step Ahead in Electrical Incubation

FIRST in performance, results and quality chicks. Lowest in current consumption and cost of operation—highest in profits. The outstanding incubator of today.

Write for new Electric Catalog

The Smith Incubator Co.
3192 W. 121st St.
Cleveland, Ohio

ELECTRICITY and a DAYTON Water System will provide your farm with the greatest convenience of all *—Running Water.* DAYTON Water Systems are made in a complete range of capacities for deep and shallow wells. Write for details.

The Dayton Pump & Mfg. Company
Pioneer Makers of Private Water Systems
The DAYTON Unisystem made in four sizes. Dayton, Ohio, U.S.A.

CHURN E-Z

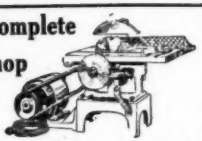
The Churn E-Z Churn is a quicker and better way to churn your butter than any other method. It is not only a labor saver, but you get more and better butter.

It can be attached to the center post of any washing machine. The dasher is removable. When in place it agitates all the milk, churning it quicker and better.

Dealers—Write for our attractive price list.

COLE MANUFACTURING CO.
BIRMINGHAM, ALA.

NEW Complete Workshop Outfit

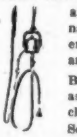


NOW you can have this new, amazing 8-in. Combination Saw (18 tools in one) shipped on 15 days' approval, at Manufacturer's risk. A complete ideal workshop for the modern farmer. Will rip, cross-cut, bevel, miter, mortise, drill, groove, grind, buff, polish, etc. 1/3 H.P.-A.C. motor included with all attachments.

Write for catalog and special offer!
—— DEALERS WANTED ——
S. & B. Manufacturing Co.
4617-K W. 20th St., Chicago, Ill.

GILLETTE

Portable Electric Clipping and Grooming Machines



are operated from an ordinary lamp socket. A powerful, quiet, smooth, fast, and neat looking outfit.

Better and cleaner milk is assured by clipping and cleaning your cows.

Send for illustrated catalog.

Gillette Clipping Machine Co., Inc.
129 West 31st Street — Dept. 11
New York City
40 Years Making Clipping and Grooming Machines Only

Sharp Tools Save Time

Use a **LUTHER Grinder**

Make yourself a portable grinder using Luther's No. 307 general purpose farm grinder and a ¼ H.P. motor. Useful attachments and wheels for sickles ensilage cutter knives, axes, tools, etc. Order a grinder through your dealer; $8.00 complete ready for use. Save the grinder cost sharpening silage knives alone. Literature on request.

LUTHER, INCORPORATED
230 South Water St. Milwaukee, Wis.

Send for FREE Book

NEW WAY TO MILK COWS

The Surge Milker

Free Demonstration

Ask for free demonstration of this wonderful new milking machine. The Surge milks cows like no other machine ever milked cows before—milks them faster, cleaner and better! Has NO Inner Tubes—NO Claws. Overcomes bacteria troubles. Milk travels only 4 inches from teat to to pail. Write at once for free catalog and details of our Free Demonstration Offer, Easy Terms and rock bottom prices.

PINE TREE MILKING MACHINE CO.,
Dept. 55-18 2843 W. 19th St., Chicago, Ill.

Appreciated

Electricity has proven to be a great help to me. Our home consists of nine rooms which are all lighted by electricity. Lights in the barn and in the yard are also very convenient.

We have a root house which is wired with about ten or fifteen lights and we could not do without them.

Some of the electric appliances we have at present are the electric iron, washer, radio, motor, soldering iron and curling iron.

We would like and are planning to install a motor to pump water into the house. There are many other things we really need such as clippers, refrigerator, etc.

Miss Mary Rinke,
Utica, Mich, Townline Road.

* * *

"The Cleanest Thing"

Our rural line was built three years ago. Since that time we have purchased electrical appliances as fast as has been possible. The last appliance to be added was our Hotpoint automatic range. All we can say for this is that it has proven to be everything the manufacturer claimed. It cooks to perfection and is the cleanest thing that can be found to cook on. As for current bills, these have been as reasonable as anyone could ask for.

I certainly am anxious to see lines extended to all farmers as I don't know of anything that has contributed more toward making farm life pleasant than electricity.

Mrs. Russel Bedin, R. No. 5, Freeland, Mich.

* * *

Living, Not Only Existing!

To be without electricity would be existing, not living. In our ten-room house we have, thanks to electricity, an automatic cistern pump which makes it possible for us to have running water in the bath upstairs. Other appliances we possess which help to make things more pleasant are the electric range, the sweeper, waffle iron, percolator, toaster, iron and an electric sewing machine. There are twenty-seven lights through the home, three floor lamps and two table lamps.

Outside we have lights in the hen house, garage, etc. A small electric pump is used for spraying the lawn.

My next appliance will be some kind of electric refrigeration. I'm for electricity first, last and always.

Mrs. Grover C. Johnson,
Iowa Park Road,
Wichita Falls, Tex.

* * *

A Wonderful Thing

Electricity is certainly a wonderful thing. We live in a nine-room house and enjoy electric lights more than we can say. Up until March, 1928, we had to use oil lamps for lighting.

Electricity is also serving us in the washer and iron. Later we expect to add a toaster, corn popper and a heater.

Mrs. David L. Krause,
New Boston, Mich.

* * *

More in the Future

Electricity was recently extended to our home. At the present time we pust have the lights and a motor for pumping water. We receive a great deal of pleasure and comfort from both of these. As soon as possible we plan to add a cream separator and churn. We are also considering using electricity for grinding feed for the chickens.

John Romine,
R. 2, Carleton, Mich.

* * *

Don't Forget the Home!

If I may express my opinion of electrifying the farm, let me urge that the home be not forgotten. To my mind, electricity in the farm home does away with the "move to town" idea more than anything I know of.

Mrs. S. M. Hilliard,
Ada, Mich.

* * *

A Happier Home

Our home is much happier since we have electricity. It certainly takes a great deal of the drudgery out of the farm home. Instead of being a chore, work both in and out of the home is made a pleasure.

Mrs. Henry J. Collard,
R. F. D. 1, Menominee, Mich.